

Volume 19 No. 4

April, 1968

W. R. SCOTT RECEIVES AWARD



MECHANIC AWARD PRESENTATION: Montana Aeronautics Commission Chairman Jack Hughes, Governor Tim Babcock, William Robert Scott and C. R. Taylor, FAA.

Governor Tim Babcock made the presentation of the Fifth Annual Aviation Mechanic Award to William Robert "Scotty" Scott. Scotty, employed by Johnson Flying Service in Missoula, received the 1967 award based on his "demonstration of a high level of professionalism and excellence in the performance of his duties as an aviation mechanic."

The FAA initiated the program in 1963 and it has been continued as a government-industry effort to honor aviation mechanics for the important

role they play in air safety. This year's industry sponsors are the Air Transport Association of America, American Aviation Publications and the National Aviation Trades Association.

In addition to the State award, eight other Montana mechanics received special citations for the year 1967. The recipients of citations were: John Nash, Missoula; Doug Burgess, Missoula; Robert Huston, Great Falls; Donald Luther, Great Falls; William Covely, Great Falls;

Elmer Finneman, Great Falls; LeRoy Gillet, Billings; and Matt Zupan of Billings.

The four previous Montana winners of the State award were: Bob Huston, Great Falls; Wally Patefield, Great Falls; George Houdek, Shelby; and Al Eurich, formerly of Billings.

ATTENTION: NON-REGISTERED PILOTS

Deadline for pilot registration is the 15th of April!

All pilots residing in the state of Montana must register by April 15th, 1968.

Pilots registered previously with the Aeronautics Commission and presently receiving the monthly newsletter will be removed from the files if not registered for the current year by April 16th.

Non-registrants will be referred to the Chief of Safety and Education Division for action.

Sanderson Private Pilot Course presently available April through May, 1968.

See Page 7 for Flight Instructors Refresher Course '68 Special.

Official Monthly Publication of the MONTANA AERONAUTICS COMMISSION

Box 1698 Helena, Montana

Tim Babcock, Governor Charles A. Lynch, Director

Jack R. Hughes, Chairman
E. B. (Ted) Cogswell,
Vice Chairman
Clarence R. Anthony, Secretary
Carl (Bill) Bell, Member
Gordon R. Hickman, Member
Walter Hope, Member
Robert H. Howe, Member



Director's Column



PROPOSAL FOR THE FUTURE DE-VELOPMENT AND FINANCING OF AIRPORTS, AIR TRANSPORTATION AND THE AIRSPACE.

The tremendous growth in Air Transportation has in this day and age been well documented and widely publicized. This growth is more evident at air transportation's focal point on the ground, the airport itself. The most popular misconception is that this concentration and crowding exists not only across the nation at all airports, but across the nation in all airspace as well.

A further misconception is that the "cure all" is money and money alone, meaning more length for existing runways and more money and manpower for extension of the existing air traffic control system.

It has been suggested that **all** air traffic be placed under the same air traffic control system in the desire for more safety. Suggestions have also arisen as to the complete separation of General Aviation Aircraft and Scheduled Air Carriers at specific terminals.

Both suggestions are a complete fallacy. First, an already cumbersome and overloaded air traffic control system cannot handle adequate-

ly and efficiently the present air traffic load at a few leading terminals, let alone any appreciable increase. It is mandatory that a new system be devised, and all possible traffic operating under visual flight rules be permitted to remain so. Secondly: there no longer exists any separation of aircraft types, capabilities, speeds or facility requirements by the classification distinctions termed "Air Carrier" and "General Aviation." Boeing, now in production of a twin jet "Air Carrier" Model 737, proposes to market the plane as a business aircraft to large corporations. Five or more American manufacturers of seven to nine place business aircraft are now marketing extensively into the "Third Level" or commuter airline air carrier field. Traffic can no longer be separated by "Ownership," "Purpose" or "Priority." Traffic must be handled and public facilities made available on the basis of the need of the aircraft model involved.

Aircraft weights, power, and service ceilings dictate their best realm in the airspace and the extent of their need in land facilities (airport runways). The jets fly high and fast, the piston equipment lower and slower. Regulation requiring the most sophisticated electronics when flying high with the jets would not be inappropriate. However, requiring the jets to fly slow and under Visual Flight Rules when flying at low altitudes while approaching terminals in good weather would not be unfair. Strictly a case of "If you can't stand the heat, stay out of the kitchen."

To continue to build a system that is actually a system and not an outgrowth of the previous years' development in engineering and manufacturing, a number of things for orderly development and financing must be done:

- 1. Require the trunk line carriers to serve purely trunk line points with trunk line airport facilities.
- 2. Rename the local service carriers as "Regional Trunk Carriers" and if their equipment trend is toward trunk type jet equipment, then realign their routes so as to eliminate excessive runway extension in small communities. This action should move in the direction of eventual subsidy elimination. All route segments once established as subsidy-

free service should thereafter remain so.

3. Re-establish "Local Service" through the "Third Level," or commuter airlines, expanding the entire system to accommodate more than the present 535 airports of the total national system of more than 9,600 airports. A subsidy factor in this field could accomplish substantially more in terms of route mileage on this class of aircraft than is presently expended for the purpose.

Civil Air Board action and Congressional assistance in giving this segment of air transportation an economic probability of success on an interstate level would, without doubt, create a practical and profitable market for increased design and production effort by light plane manufacturers specifically for this field.

Many states have already moved to enhance this "commuter" type service on an intrastate basis through regulation, route approval and protection, and the issuance of Certificates of Convenience and Necessity.

- 4. Not only require the "little guy" aircraft to equip and operate like jets when **up** with the "big boys," but also require the big boys to operate "heads up and eyes open" when down at approach altitudes and local traffic patterns in good weather.
- 5. **Do not** overload "Air Traffic Control." Keep all the traffic that weather will permit on a "Visual" basis
- 6. Do devise an "Air Traffic Control System" that can expand with the number of runways.
- 7. Separate small and large aircraft on long and short parallel runways and separate radio frequencies (not just for the "little guys" but for the convenience of the "big boys" as well).
- 8. Unload the "controller." By the use of separate runways, separate frequencies and approach, departure, and ground control, the total workload at major airports can be divided so a "controller" need work only one runway.
- 9. Establish an equitable system of taxation so the burden will be more in line with the needs of the aircraft utilized.
- (a) A big jet needs a certain runway strength and length, regardless of who owns it.
- (b) A little aircraft that can operate from shorter runways has no need for jet strength construction.

- (c) Numerous shorter lighter runways can be built for the cost of one major jet runway.
- (d) The larger jets are now requiring reinforced taxiways, ramps and parking aprons.
- (e) The large high speed aircraft require the greatest amount of constant air traffic control services; that is, full control even under "Visual" weather conditions.
- (f) The one factor most nearly proportioned to the aircraft needs and class of facilities and services required, is fuel consumption.

10. Taxation to finance airport construction to devise an improved system of air traffic control, based on fuel consumption, would be most equitable for all classes of air transportation concerned.

Inasmuch as the need for revenues at state and local level for airport operations and development must also be fulfilled, considerable thought must be given to spreading the tax base so as to more nearly develop necessary revenues for the obligations alloted each segment of government.

As the moral right to assess or refuse taxation rests with the people themselves, it is probable that if a priority exists as to the right of a particular tax base it is at local level. or the lowest echelon of govern-

The following is a schedule of taxation on aviation as it exists in Montana today.

	Air	General Aviation		Federal
Aviation Gas	No	2-3c	1c	4c*
Jet Fuel	No	2 - 3c	1c	No
Landing Fees	Yes**	No***	No	No
Land Rentals	No	Yes	No	No
Building Rentals	Yes	Yes	No	No
Ticket Excise Tax			No	5%
Weighbill Tax			No	No
Gate or Head Tax	No	No	No	No
Ad Valorem Tax	Yes	Yes	No	No
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*2c to Highway Trust Fund, 2c refunded on application.

**Generally based on a flat fee (6c-15c on each 1,000 pounds of landing gross weight.)

***General Aviation pays fuel flow fees in lieu of landing fees.

Projections to 1972 established in recent FAA reports indicate growths as follows:

Population	6%
Gross National Product	24%
Air Passengers	
Fuel Consumption	
Air Carrier Aircraft	
General Aviation Aircraft	
Aircraft Production	40%

If FAA budget expenditures in the field of supersonic aircraft development were cut back until defense program financing leveled off or was cut back, and proposed FAA expenditures for operations were leveled until an adequate Air Traffic Control System were devised and inaugurated, it would be possible to budget at a level of \$900,000,000 or slightly less. Of this amount approximately 30%, is charged against military and defense use. The Civil share then, of the total, plus a vitally needed increase in funding to approximately \$200,000,000 for airports for the next 5 years, would establish a total budget requirement of less than \$750,000,000. Conceivably this a mount, based on growth projections, could be generated by the industry to an adequate level of 100% of the costs within a 10 year period.

The present 2¢ Federal tax per gallon on aviation gas would have to be diverted from Highway Trust Fund to Aviation Trust Fund. The present refundable 2¢ Federal tax would also have to be held. The total would then probably have to be increased to 5¢ per gallon on all aviation fuels straight across the board

Any heavier assessment at this time at Federal level would create an insurmountable hardship which would be reflected, either in a curtailment of industry growth, so vital to the nation, or a serious cutback of revenues and obligations at state and local level.

FEDERAL AVIATION **ADMINISTRATION** INTINERARY LISTING



Airport	April	May
Culbertson	. 3	****
Glasgow	****	8
Glendive	****	23
Great Falls		9
Lewistown		****
Miles City Missoula		23
Sidney	23	22

NOTE: Provisions have been made to give private commercial and flight instructor and instrument written examinations, ON AN AP-POINTMENT BASIS ONLY at the following FAA Flight Service Stations:

Lewistown Livingston Miles City Missoula Great Falls Bozeman Butte Cut Bank Dillon

DEDICATION OF HYSHAM AIRPORT **MAY 26**

The airport at Hysham will be publicly dedicated on May 26. Walter Hope, Treasure County Commissioner and Aeronautics Commission member, announcing the dedication plans stated that Governor Babcock has been invited to be the keynote speaker for the dedication ceremon-

Al Newby, Belgrade will present an aerobatic air show in his Great Lakes Trainer!

TIME SCHEDULE OF EVENTS

12:00 NOON—FLY-IN LUNCH 1:00 PM-BAND CONCERT by the Treasure County High School Band. 1:30 PM - DEDICATION CERE-MONIES.

Tentative plans are for a display of new show room aircraft.

An award will be given to the pilot flying from the farthest distance for the Dedication.

Pilots are urged to arrive as early as possible to alleviate ground control confusion.

Unicom Radio Advisory Services and Tie Downs will be available.

The Hysham Airport consists of a stabilized turf runway, 3,000 feet long by 75 feet wide and is located 11/2 miles east of Hysham (adjacent to old U.S. Highway 10). The airport was constructed under the Aeronautics Commission's General Aviation Utility Airport Program. The Contractor was Stephen Kenney of Hardin and the Engineering Firm was Wenzel & Company of Great Falls.

FLY IN FOR CULBERTSON'S FRONTIER DAYS

A Fly-In will be held on June 8th in conjunction with Culbertson's "FRONTIER DAYS." A free breakfast will be served to all flying in!

Frontier Days, June 8 and 9, is an annual event and includes fun, fun, fun for the whole family.

Included in this years schedule are the following:

Parade - Beef Barbecue - Carnival — Rodeo — and Dance.

MARK YOUR CALENDAR, JUNE 8 & 9

DON'T MISS THIS FAMILY AVIA-TION EVENT AND TRULY WESTERN WEEKEND OF FUN!

AIRPORT NOTES



By James H. Monger Assistant Director, Airports

Glendive — March 1st a special election was held in Glendive asking the electorates of Dawson County and the City of Glendive to vote on a \$285,000 special bond issue for a new airport. The issue passed by 2 to 1 with 44.8% of the eligible voters turning out. 1,268 people for and 680 people voted against the issue. Glendive is now rapidly proceeding with the finalizing of their engineering plans and specifications. Bids will be called for early this spring and it is expected that construction can be completed later this fall.

Valier — The Pondera County Airport Board has retained the engineering firm of Thomas, Dean & Hoskins, Inc. of Great Falls to conduct an engineering study for the development of the airport at Valier. The ultimate development will probably be a local, State, and Federal aid project and consist of paving a runway and taxiway, lighting, fencing, and constructing a stabilized turf crosswind runway.

Yellowstone — A meeting will be held in Helena on April 10th to dis-cuss the future of the Yellowstone Airport with representatives being present from the MAC, FAA, Frontier Airlines and Western Airlines. and consulting engineers. The meeting will basically be concerned with how the coming jet aircraft will affect the Yellowstone Airport as well as the various desires and requirements of the airline for both runway extension and terminal building expansion. Aircraft performance and the airlines' future plans will be the main topics. At a later date, similar meetings will be held with other tenants on the Airport. A meeting was conducted on March 7th between the MAC, FAA and the National Park Service regarding financing of future major airport developments.

H-Markers — The City of Glasgow has requested the installation of a State-owned, low frequency, non-directional radio homer beacon for the Glasgow International Airport. The Aeronautics Commission will act on the application as soon as the State-owned H-marker policy is firm.

Fairview - The Montana Aeronautics Commission met on March 14th and at that time approved the application for the construction of a general aviation utility airport in Richland County serving the town of Fairview. The GAU airport at Fairview will be developed in stages due to a financing problem by the State. It is planned to purchase the property, fence it, remove obstructions, and interested local groups will grade a usable area for temporary use only until State funds are sufficient to construct an all-weather runway. The Fairview Airport is planned to be 11/2 miles West of the town.

Havre VOR — The omni for the Havre City/County Airport is planned to be operational by April 30th. This State-owned omni will be a VFR navigational aid for sixty days and then it will probably be fully certificated for an IFR aid.

Hospital Heliport — The City of Cut Bank has informed this office that they intend to construct a hospital heliport at the Glacier County Memorial Hospital. The project will be totally financed with city and county funds with the Montana Aeronautics Commission assisting with engineering and technical advice from the Airport Division.

Philipsburg — The MAC is the sponsor of a local, State, and Federal project for the construction of a new airport at Philipsburg in Granite County. The MAC is still awaiting the allocation of Federal monies for this project. The request for Federal aid was made from the fiscal year '68 program. Advertisement for bids will be started as soon as the Federal allocation is made. The paved Philipsburg Airport will be 3,600 feet in length and will be located South of the County seat one-half mile. Stanley Thill, Consulting Engineer, from Conrad will furnish any interested contractors plans and specifications for this project.

BILLINGS COMMERCIAL AIR TRAFFIC, 1959 TO 1966



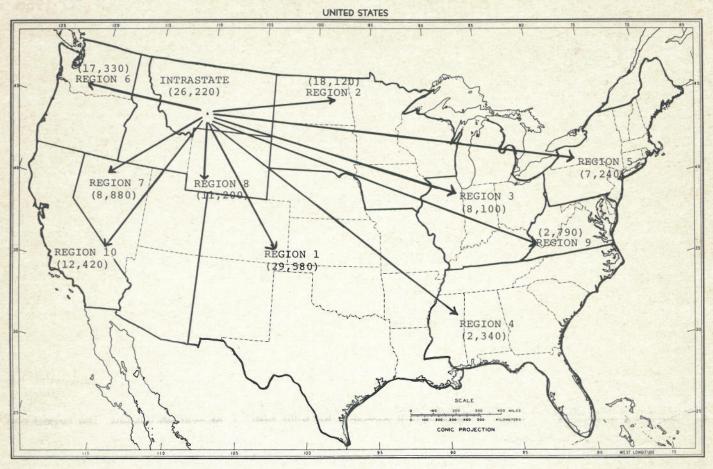
TAP INC.

An examination of the Montana historic origin and destination traffic clearly illustrates that the two major cities of Great Falls and Billings are the overwhelmingly most important air passenger markets in Montana. These two markets alone make up well over fifty percent of the total traffic from Montana in each of the years 1959-1966. This article deals entirely with an examination of the traffic from Billings to other regions of the United States in the period 1961-1966. An article will follow next month concerning the traffic from Great Falls.

The total origin and destination traffic from Billings in 1966 amounted to 144,220 passengers. This made up approximately one-third of the total origin and destination traffic from the State of Montana. The total growth in traffic from Billings has been very steady from 1961 with a total growth rate from 1961 to 1966 of over 96 percent. The largest percentage growth in any single year was nearly a 25 percent for the period 1962-1963. Growth in the period 1965-1966 was over 13 percent which represents nearly 10,000 passengers.

The regional map shows the breakdown of the United States with the total origin and destination traffic exchange between Billings and each region for the year 1966. A careful examination of this map reveals the pattern of the movement of traffic from Billings to other points in the United States. The most important Region outside of Montana for Billings traffic is unquestionably Region 1 with Denver as a major hub out of Billings to this region. Intrastate traffic also makes up a very significant portion of the total Billings traffic. The intrastate traffic makes up over 20 percent of the traffic from Billings. It thus can be noted that Region I plus the Intrastate traffic amounts to approximately 40 percent of the total for Billings.

Region 2 is also of major importance as the five states included in that region make up over 12 percent of the total Billings traffic. Minne-



apolis is an extremely important point in this region for Billings. It should also be stressed that the growth to this region is significantly more than to Region 1 in the past six years in that the growth in traffic to Region 2 has been over 132 percent in the time period 1961-1966.

Region 6 which includes the two states of Washington and Oregon is the next most important region for Billings. Approximately 12 percent of the total Billings traffic is exchanged with these two states. Regions 7, 8, and 10 which are all Southwestern states make up together approximately 22.5 percent of the total Billings traffic. The State of California alone represents nearly 9 percent of the total Billings traffic.

Regions 3, 5, and 9 are all Eastern regions with 3 and 5 being significantly more important but also larger in area than is 9. Region 3 includes the important points of both Chicago and Detroit while Region 9 traffic is primarily oriented into the Balti-

more and Washington, D. C. areas. Region 5 includes many major cities including New York.

The smallest region in terms of traffic and one of the largest in terms of number of states represented is what could be referred to as the Deep South or Region 4. There has been a tremendous growth rate experienced for this region but the total traffic is still quite small compared to other areas of the Billings market.

In conclusion one notes that the areas directly to the East including Regions 2, 3, 5, and 9 account for approximately 25 percent of the total Billings traffic. Region 1 accounts for approximately 22.5 percent while the three regions 7, 8, and 10 account for another 22.5 percent. Regions 1, 7, 8 and 10 can all be classified as Southern regions which when added together account for nearly 45 percent of the total traffic from Billings. The Western oriented traffic to Region 6 accounts for 12

percent. Region 4 which is the Deep South accounts for approximately 1.5 percent. In conclusion, it is clear that a major portion of the Billings traffic is oriented to the Southwest but that the East/West traffic taken together amounts to nearly as much total traffic as to the South. It should also be clear that Intra-state traffic is, in fact, important to and from Billings in that nearly one-fifth of the total origin and destination traffic is Intrastate.—Compiled by Research Staff - TAP Inc., Lloyd C. Rixe and Wm. J. Ewasiuk.

COLUMBUS, MONTANA FLY IN AND AIR SHOW MAY 19, 1968

Breakfast 9:00 AM - 11:00 AM

Sponsored by the Columbus Jaycees



April 2, 3, & 4, Washington, D. C.

— National Association of State Aviation Officials Spring Conference.

April 10 & 11, Helena — Montana Aeronautics Commission Monthly Meeting.

April 19, Lewistown — Montana Airport Management Association's Annual Meeting — Headquarters, Yogo Inn.

April 22-25, between Managua, Nicaragua, C. A. and Panama City, Florida — 18th Angel Derby (All Women's International Air Race). The race will offer \$2,500 in cash prizes and the 2402 st. mil. Angel Derby will take contenders to the southernmost point in the hemisphere from which a race has ever begun.

Complete details, Rules and Entry Forms may be obtained from Mrs. E. O. Hatfield, General Chairman, 12820 Oelander Road, North Miami,

Florida 33161.

April 23, Kansas City, Mo. — Conference of State Aviation Directors and the Federal Aviation Administration Officials of the FAA Central Region.

May 3, 4, & 5, Cut Bank — Montana Pilots Association's Annual Convention. Max Conrad featured speaker. (Make your reservations now!)

May 11, Calgary, Alberta, Canada
— International Northwest Aviation
Council Board Meeting.

May 19, Columbus — Fly-In and Air Show. Breakfast served 9:00 am to 11:00 am. Sponsored by the Jaycees.

May 19-23, Philadelphia, Penn. — American Association of Airport Executives Annual Convention.

May 26, Hysham — Airport Dedication. Activities commence at 12 Noon — Fly-In Lunch — Al Newby's Aerobatic Airshow — Band Concert. (See Article.)

May 30 Memorial Day, Missoula
— "Aviation Day" Tentative Date.
U. S. Navy's Flight Exhibition Team
"The Blue Angels."

June 8 & 9, Culbertson — Fly-In held in conjunction with "Frontier Days." Free breakfast June 8 for all flying in.

June 10-28, Dillon — Western

Montana College Aerospace Education Workshop.

June 11-July 3, Havre — Northern Montana College Aerospace Education Workshop.

June 17-July 3, Billings — Eastern Montana College Aerospace Education Workshop.

July 12-14, Sun Valley, Idaho — "Western Flight Roundup." The Tri-State (Montana, Oregon and Washington) Pilots Association Summer Fly-In.

July 27-28, Revelstoke, B. C. Canada — International Championship Stock Plane Races sponsored by the Revelstoke Flying Club. Time trials on Friday, July 26th. Elimination races Saturday on July 27th. International Championship 100 mile race on Sunday, July 28th. Accompanying air show — World's greatest spectator sport held in the world's most perfect natural amphi-theatre in the Columbia Valley at Revelstoke. (Watch for further details on Canada's first Air Race.)

August 24 & 25, Ekalaka — Billings Hangar of the MPA's Second Annual Fly-In. (Watch for further

details.)

MPA CONVENTION NEARS

All Montana Pilots Association Members should have their reservations by now for the annual convention!

Registration Fees are: \$25.00 per couple—\$15.00 Single. Persons attending banquet only, pay \$7.50. The Convention Committee requests a \$10.00 pre-registration fee per couple and \$5.00 pre-registration for single.

If your reservations are not made, do it today! Submit your Pre-registration and accommodation reservation requests to Arthur Stubkjaer—c/o Glacier Hotel and Motel at 15-1st Avenue S.W., Cut Bank. Reservations will be made for you at this time if requested.

Convention Schedule:

FRIDAY NIGHT: Costume Party and the theme is "Oil Well."

SATURDAY: Business Meetings and Election of Officers.

SATURDAY NIGHT: The Max Conrad Banquet and Dance.

SUNDAY: Fly-Away Breakfast

NOTE: Pre-Registration/Reservation form on Page 16.

WESTERN FLIGHT

Montana's Miles White of the Great Falls Hangar of the MPA submitted the winning name "Western Flight Roundup" for the fly in to Sun Valley, July 12, 13 and 14.

The Fly-In is sponsored by the Washington, Oregon and Montana Pilots Associations and has a full schedule of fun-type activities planned for all age groups.

Activities planned for the 3 day event include: special golf tournament, swimming, horseback riding, barbecue and dance.

In addition there will be a Teen Center for the Teens - Baby sitting and A Supervised Recreational Program for children from 8:30 A.M. until 4:30 P.M. Prices for services are reasonable.

A wide variety of accommodations are available and reservations may be made direct with Sun Valley.

(Additional details will be published as they are received.)

AT LEWISTOWN

Mary is "back on the job" at the coffee shop on the airport at Lewistown. Due to illness, the coffee shop has been closed for the past six weeks.

With the spray pilots (and other early travelers) in mind, the hours are from early a.m. until 7:00 PM, Tuesdays through Sundays, closed on Mondays.

STATISTICS

Will your **first** accident be your **last** day alive?

61/37 65/22 78/18 69/18 12/2

	A	ACCIDENT	
		TOTAL	FATALITIE
1964	Total	61	37
1965	Total	65	22
1966	Total	78	18
1967	Total	69	18
1968	To-Date	12	2

1968

SIXTH MONTANA FLIGHT INSTRUCTORS REFRESHER COURSE

Nineteen qualified Montana Flight Instructors completed a concentrated Refresher Course held in Great Falls, March 4 through March 8th. The course, sponsored by the Montana Aeronautics Commission in cooperation with the Federal Aviation Administration, the United States Department of Commerce, ESSA-Weather Bureau and the Montana Aviation Trades Association, was the sixth course to be held in Montana.

The Flight Instructor Refresher Courses were initiated in the United States by the Montana Aeronautics Commission in 1962. Montana courses followed in 1963, 1964, 1966 and 1967. With the completion of the 1968 course

a total of 121 Certificates of Merit have been awarded to flight instructors attending a Montana FIRC.

The Course was designed to refresh flight instructors on procedures and to up-grade the instruction methods and thereby increase aviation safety commencing on the instructor-trainee level and has been beneficial to Montana flight instructors in obtaining their FAA Recertification.

GROUND SCHOOL

The Ground School portion was held at the O'Haire Manor from 8:00 A.M. till 12 noon daily with additional

afternoon classes being held at facilities of Holman Aviation on International Airport.

Instruction was presented by personnel from the FAA Academy in Oklahoma City, the FAA's Air Traffic Control, Flight Service Station and RAPCON in Great Falls; the FAA General Aviation District Offices in Billings and Helena; and the Weather Bureau personnel from Helena and Great Falls.



FAA ACADEMY, OKLAHOMA CITY: Spence Houghton, Fundamentals of Instruction; Bruce Romick, Flight Maneuvers; and John Hoover, Instruments and Performance.



GENERAL AVIATION DISTRICT OFFICES: Lee C. Mills, Supervising Inspector GADO No. 9, Helena; F. W. Lueneburg, Supervising Inspector GADO No. 1, Billings; Art Kurth and Larry Basham, GA Operations Inspectors GADO No. 9, Helena. (Not present for picture C. R. "Bob" Taylor, GA Maintenance Inspector, GADO No. 9, Helena).



AIR TRAFFIC CONTROL, GREAT FALLS: Standing, Bernard Majerus, Chief FAA Control Tower; Lee C. Ward, Chief, Flight Service Station; Seated, O. K. Haggbloom, Chief, RAPCON; Sam Tyree, Air Traffic Specialist FSS.



ESSA—WEATHER BUREAU, GREAT FALLS: Harold Ward, Quality Control Officer; Rd. M. Rauch, Meteorologist-Forecaster; and Warren Harding, Meteorologist-Forecaster. (Special Weather Panel participants were: John Hamilton, Meteorologist in Charge; Arthur Jacobson, Meteorologist-Forecaster of Great Falls; and Richard Dightman, Meteorologist in Charge, of Helena — Not Shown).

FLIGHT

The Flight portion conducted at Holman Aviation Company facilities, was under the supervision of the two General Aviation District Office Supervisors, Fritz Lueneburg, GADO No. 1, Billings; and Art Kurth, GADO No. 9, Helena and instructed by five Flight Line Tutors; Jack Hughes, Bob Simpson, Walt Hensley, Richard Hickox and Thomas Westall.

All flight maneuvers were coordinated with the Ground School by FAA Academy Instructor, Bruce Romick.



FLIGHT TEAMS



Trainee Earl Franck; Flight Line Tutor Walter Hensley and Trainee Ken Enghusen.



Walt Hensey Flight Line Tutor; Trainees Walter Huffman and Bob Boles.



Flight Line Tutor Richard Hickox and Trainees Dennis Elgen and Tim Hayes.



Trainees Ron Radabah and Robert Ferguson and Flight Line Tutor Richard Hickox.



Trainee Mark Fairless, Flight Line Tutor Jack Hughes and Trainee Don Cazier.



Ron Adams with Flight Line Tutor Jack Hughes and Trainee Wayne Clay.



Trainees Andy Morris, Parke Mitchell and Flight Line Tutor Bob Simpson.



Flight Line Tutor Bob Simpson; Trainees Mary Stevenson and Kemper Hall.



Trainee Don Van Manen; Flight Line Tutor Tom Westall and Trainee Russ Cebulski.



Trainee Roger Nelson; Flight Line Tutor Thomas Westall; and Trainee Jeron Taylor.

LUNCHEON

Montana Aeronautics Commission Director Charles Lynch, spoke at the noon luncheon to the 40 trainees, instructors and guests held at the O'Haire Manor on Friday, March 8th.



LUNCHEON: Charles A. Lynch, Director of the Montana Aeronautics Commission makes the presentation of the FIRC "Wings" and Certificate to Trainee Dennis Elgen as Course Manager Jack Wilson looks on.

Mr. Lynch extended the appreciation of the Commission to the instructors complimenting them on the high quality of instruction and the material presented. He expressed sincere appreciation and his admiration to the trainees for their time and effort expended in order to update themselves and their profession.

Mr. Lynch assisted by Course Manager Wilson presented the trainees and instructors with the Commission's FIRC "Wings" and the certificates.



Trainee Roster

Name

Operation

raumo	- Portune	1
Robert S. Boles	Boles Aviation Service	Hardin
Don Cazier	Don's Flying Service	Townsend
Russell Cebulski	Mendel Flying Service	Malta
Wayne H. Clay	Bass Mooney Aircraft	Lewistown
Dennis Elgen	Modern Aire Flight	Culbertson
Kenneth Enghusen	Farm Spraying Service	Conrad
Mark Fairless	Self Employed	Great Falls
Robert Ferguson	Hamilton Aviation	Hamilton
Earl F. Franck	Big Sky Air Taxi	Libby
Kemper W. Hall	Northern Aviation	Great Falls
R. Tim Hayes	Morrison Flying Svs.	Helena
Walter Huffman	Sky Flight, Inc.	Big Timber
Parke Mitchell	Lynch Flying Service	Billings
J. Andre Morris	Todd's Aero Spraying (Lwt.)	Twin Bridges
Roger A. Nelson	Self Employed	Glasgow
Ronald S. Radabah	Glacier View Skyways	Kalispell
Mary Stevenson	Self Employed	Missoula
Jeron Taylor	Gillis Aviation	Billings
		1000 1000 1000

Strand Aviation



Don Van Manen

Course Manager Wilson addressing the group at the Luncheon on Friday!

MAC STAFF

Kalispell

City

Jack Wilson, Chief Safety and Education Division, Course Manager.

C. Joyce McCutcheon, Course Secretary and Jerry Burrows, Course Technician.

AVIATION EDUCATION HIGHLIGHTS



By C. R. "Ron" Adams Supervisor of Aviation Education

During this time of the year I think it would be advantageous to have our days extended from twenty-four to thirty-six hours in length. In fact, forty-eight hours would be better yet! However, with more time available you would end up doing more and more and you still wouldn't have enough hours in a day to accomplish everything.

The last time I wrote for the Newsletter was the February issue. Since that time a great deal has taken place, both in aviation education and to me personally.

C. A. P. Appointment

You may have read in the March Newsletter that I have been appointed the Wing Commander of the Montana Wing Civil Air Patrol. I mention this because of the implications and additional duties and responsibilities I have assumed as a result.

My decision to accept the appointment was the culmination of a great deal of thought. Past history has shown a pattern of conflicting interests between C. A. P. and other organizations. It has exhibited a lack of significant growth, public acceptance and support and the ability to adequately perform its assigned mis-

It is certainly not my intent to place the responsibility for these shortcomings on anyone or any group. As a matter of fact, these deficiencies are strictly my own personal observations. I will do all I can to correct these situations and raise the public's regard for C. A. P. to the position it enjoys in the majority of states across the nation.

I have brought out these points for one reason and one reason only. WE NEED ASSISTANCE! The C. A. P. has basically two missions:

(1) Aviation and Aerospace Education for the youth.

(2) Provide emergency services

in time of local and/or national emergency.

Their relative position is also their order of importance in my estimation.

Those of you who read "Aviation Education Highlights" I assume are interested in providing aviation education for our youth. This would be an excellent way for you to become involved, whether you are a teacher, a parent, or just interested in the subject area. We are in dire need of people to assist us in this phase of C. A. P.

The C. A. P. has probably the finest incentive awards for youth in aviation that you can find. But, the cadets without the leadership and guidance of senior members cannot achieve these goals. Many youth incentive awards have to be turned back for lack of qualified applicants. This trend can be reversed with aggressive and diligent efforts on the part of senior members.

CAP'S Second mission is not being forgotten. We are fortunate in Montana to have fine emergency services organizations, both locally and at the State level. I am speaking of the local search and rescue associations, civil defense and our own Montana Aeronautics Commission. Therefore, the need in this area is not quite

We are not ignoring this mission by any means. It is receiving attention, but with the aim of being able to supplement and assist those groups I mentioned above. These groups have been in this emergency services and search and rescue business a long time. They know the "ropes" and we do not, simply because we lack the experience. But we can gain this experience with properly trained personnel being available to supplement and assist their operations. Then, if the need ever arises, the C. A. P. can function and function effectively in an emergency services role.

Again, may I emphasize to each of you our need for adult assistance. There is no financial reward, only a sense of accomplishment in seeing a cadet achieve his goal or render a helping hand to your fellow man. Perhaps your school, for one reason or another, cannot put in our aviation education program. The C. A. P. can fill this void.

Think it over. Do you feel you would like to contribute? If so, contact me at the Montana Aeronautics Commission or the Montana Wing, Civil Air Patrol, Helena Airport, Helena, Montana 59601.

FRONTIER AIRLINES' FEBRUARY INCREASES

Frontier Airlines recorded a 47% increase in February in passenger miles flown compared with results for the month of 1967.

Passenger miles totaled 54,363,000 in contrast with the 37,060,000 passenger miles of February last year. The new February travel record was established by 165,093 passengers.

The Montana cities served by Frontier had the following increases in passenger boardings during February along with percentage differential compared to February boardings one year ago.

City	1967	1966	Percent
Billings	2670	2144	+25
Glasgow	209	168	+24
Glendive	90	68	+32
Gt. Falls	1388	866	+60
Lewistown	150	82	+83
Wolf Point	135	55	+145

CONGRATULATIONS, TO -

SHELBY, MONTANA:

\$359 contributed to the Red Cross. Raised by 2¢ per pound flights. Pilots contributed their time, their talent and their aircraft.

MILES CITY, MONTANA:

March 31st - Local pilots will be holding 1¢ per pound flights with all proceeds going to the March of Dimes.

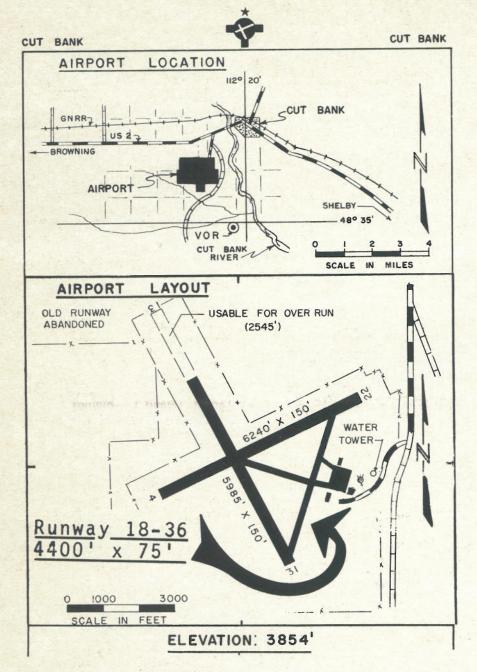
Food for Thought: Organizations holding fly-ins or local aviation events during the coming weeks may bear in mind that April is CAN-CER DRIVE month.



Billings

Total Operations Instrument Operations 12,300 1,638 Great Falls 9.975 1,425 Missoula 7.918 434 Helena 387

CUT BANK AIRPORT DESIGNATES NEW RUNWAY



The following announcement has been received from Darrell Hamilton, Airport Manager at Cut Bank:

"Due to the frequent high cross winds, the Cut Bank Airport has opened the North-South Taxiway to be used as Runway 18-36. The runway will be open to VFR daytime operation only."

The airport layout shown above designates the runway 18-36 by the bold arrow.

The next time you try to figure how many miles your family car gets to the gallon, just remember that TWA says its Boeing 707, 4-engine jets get about three blocks to the gallon.

The fuel aboard a fully loaded supersonic transport (SST) will account for almost half the gross take-off weight of the aircraft.

FAA INSPECTORS' CORNER



By LAUREN D. BASHAM GA Operations Inspector GADO No. 9

What causes an airplane to stall? An airplane will stall whenever the critical angle of attack of the wing-airfoil is exceeded. Every wing type airfoil has an angle of attack beyond which the air through which it moves tends to pull away from its upper surface. The point at which the airflow tends to break away from the upper surface of the wing is called the separation point. This separation point moves forward rapidly as the critical angle of attack is approached.

The importance of this separation point as a critical factor in the increased stalling speed of the symmetrical or laminar flow wing sections for general aviation type airplanes is undeniable. Formerly such airplanes had a "high lift" type airfoil designed for maximum lift at slower airspeeds. These "high lift" type airfoils generated lift at an effective zero angle of attack by a principle k n o w n as "Bernoilli's Theorem." This principle states in effect that when a fluid or gas is in motion, the pressure decreases as the speed is increased. The "high lift" wing sections use this principle by providing a curved upper surface and a nearly flat bottom surface. The air mass or relative wind which strikes the leading edge of the airfoil is required to travel faster and farther over the upper surface than beneath the wing causing a low pressure area above the wing resulting in the desired lift. The more efficient high speed symmetrical wing sections now popular, having nearly identical curvatures on both upper and lower surfaces, must be flown at a positive angle of attack.

At high cruising speeds, the positive angle of attack required is very low, with the separation point near the trailing edge. At any slow speed, the angle of attack must be increased to maintain a constant attitude and the separation point then moves forward. When the separation point moves forward enough to exceed the

design factor, then the wing must stall. A knowledge of these factors alone will not necessarily help the pilot. He must, in addition, know what factors are likely to contribute to or cause this design separation point range to be exceeded.

Must the airplane have a relatively low airspeed in order for it to stall?

NO! An airplane may be stalled at any airspeed if the critical angle of attack is exceeded.

Must the airplane be operated at a relatively high pitch attitude in order for it to stall? NO! An airplane may be stalled at any attitude if the critical angle of attack is exceeded. For instance, an airplane may be stalled at any point in the execution of a loop merely by application of abrupt or excessive back pressure on the elevator in which the critical angle of attack is exceeded.

Does weight affect the stalling speed of an aircraft? YES! Weight added to an aircraft requires that it be operated at a higher angle of attack to produce the lift necessary to support that weight and therefore the critical angle of attack will be reached at a higher airspeed.

Does C G location affect stall speed? YES! A center of gravity position which is outside of approved limits will affect the stall speed and stability characteristics as well. The stall speed is reduced by a rearward CG position and increased by a forward CG position.

Does turbulence affect stall speed?
YES! Encountering an upward vertical gust causes an abrupt change in the relative wind, causing an equally abrupt increase in angle of attack which could result in a stall.

Does angle of bank affect stall speed? YES! In a constant altitude turn, the stall speed increases as the bank increases. In a 60 degree bank, with a load factor of two, the stall speed increases by the square of the load factor (1.4).

These and other factors affect the stall speed of an aircraft. Each wing has specific angles of attack at which it operates most efficiently in various maneuvers. There are various types of stall warning indicators and safe flight indicators available today for use in general aviation aircraft. Yet

—the most effective stall deterent is still the safety-minded pilot who has developed a stall awareness along with an intimate knowledge of the aircraft he flys—of him it will never be written, "The pilot attempted a steep turn at a low altitude during which he allowed the airplane to stall and C

A S H".

CONGRATULATIONS



CERTIFICATES ISSUED RECENTLY TO MONTANA FLYERS

STUDENTS

Davis Jr., A. D.—Great Falls Stewart, Samuel L.—Shelby Hayden, Richard A.—Great Falls Feil, Roger A.—Lovell, Wyo. Kapitzke, Glen E.—Miles City

PRIVATE

Poore, Robert A.-Butte Hensley, Thomas H.—Toston Neuman, Ted-Power Meyer, John P.-Helena Larson, Robert L.—Havre Thomson, Stewart L.—Great Falls Stanfill, Perry J.—Toston Beck, Theodore P.—Highwood Hurst, Jeffery A.—Kalispell Renn, Richard H.—Bozeman Cameron, William H.—Missoula McChesney, William L.-Missoula Skroch, Robert M.-Darby Stroud, Douglas M.-Missoula Williams, Ellis C .- Missoula Fritz, John R.—Chester Christopherson, Leland P.—Havre Benjamin, Jerry L.—Devon Dick Jr., Leo R.—Malmstrom AFB Troxel, Gordon E.—Great Falls Shumsky, Glen A.—Cut Bank Johnson, Edward A. III-Gt. Falls Grossman, Dennis C.-Gt. Falls Gossard, Allan R.-Lewistown Engellant, Edward L.—Great Falls Easton, Darrell J.—Great Falls Davis, Denzel-Great Falls Daniels, Richard T.—Great Falls Lutton, Gerald W.—Billings

Shaak, Robert D.—Billings Becker, Ben A.—Billings Poore, Dennis L.—Billings Paras, Ricardo—Glasgow Criswell, Robert W.—Hysham Prill, Robert L.—Billings Olson, Michael K .- Billings Hartford, Lester H.-Lewistown Swift, Teddy E.—Lewistown Heller, Harlen L.—Lewistown Barelman, Betty A.—Lewistown Cook, Jon R.—Lewistown Northrop, Dan A.—St. Paul, Minn. Boyd, James W.—Streator, III. Peters, Gordon R.—Billings Feller, Raymond D.—Hardin Steiger, Roger D.-Huntley Mims, David H .- Billings Hedrick Jr., James R.-Ryegate Wilson, Gary K .- Billings

COMMERCIAL

Loveridge, Robert T.-Jackson Guinan, Donald W.-Malta Johnson, Gordon R.-Missoula LeDeau, Gary A.—Missoula Lancaster, John W.—S. Whitley, Ind. Peterson, Stanley F.—Missoula Smuin, Douglas K.—Missoula Christensen, Richard G.—Gt. Falls Knebel, Harvey L.-Kalispell Jenkins III, Delbert W.—Billings Sinner, Richard A.—Billings Lareva, Leland L.—Billings Morgensen, Jeffrey P.-Helena Wishman, Raymond—Geraldine Weibert, Ruben G.—Garryowen Smith, Robt. B.—Solana Beach, Calif. Ristow, Michael G.—Gardiner Rismon, Ronald L.—Billings Johnson Jr., Arnold R.—Billings Ranney, Dorothy G.-Billings Macha, Larry R.-Big Horn, Wyo.

INSTRUMENT

Turner, Wayne C.—Great Falls Billmayer, Frank J.—Hogeland Thielen, John B.—Gillette, Wyo. Morgensen, Jeffrey P.—Helena Cheney, William H.—Casper, Wyo. Smith, Robt. B.—Solana Beach, Calif. Ristow, Michael G.—Gardiner

MULTI ENGINE

Stearns, George H.—Kalispell
Richards, William C.—Kalispell
Bridge, Jason K.—Great Falls
McCann, Paul G.—Great Falls
Woods, Robert E.—Billings
Eaton, Robert T.—Billings
Olson, James R.—Billings
Smith, Robt. B.—Solana Beach, Calif.
Morgensen, Jeffrey P.—Helena
Ristow, Michael G.—Gardiner
Rismon, Ronald L.—Billings
Kauffman, Robert E.—Billings

SEAPLANE - COMMERCIAL

Knebel, Harvey L.—Kalispell

HELICOPTER RATINGS

(Instrument)
Bridge, Jason K.—Great Falls
(Commercial)

Rismon, Ronald L.—Billings (Commercial & Flight Instructor) Kaufman, Robert E.—Billings

FLIGHT INSTRUCTOR

Edward, John B.—Billings Smith, Robt. B.—Solana Beach, Calif. Ristow, Michael G.—Gardiner Andersen, Rodney E.—Bozeman Rogers Jr., Julian W.—Utica Morgensen, Jeffrey P.—Helena Popp, James W.—Billings

FLIGHT INSTRUCTOR INSTRUMENTS

Stradley, Roger I.—Belgrade Cheney, William H.—Casper, Wyo. Smith, Robt. B.—Solana Beach, Calif. Ristow, Michael G.—Gardiner Morgensen, Jeffrey P.—Helena

GROUND INSTRUCTOR

Weaver, Jack W.—Billings

ADVANCED GROUND INSTRUCTOR

Wester, Kenneth D.—Great Falls Smith, Robt. B.—Solana Beach, Calif. Svendsen, Jon A.—Billings Jenni, Thomas C.—Lewistown Taylor, Jeron—Glendive

INSTRUMENT GROUND INSTRUCTOR

Smith, Robt. B.—Solana Beach, Calif. Svendsen, Jon A.—Billings

GOLD SEAL

Taylor, Jeron—Glendive Clay, Wayne H.—Lewistown

SPECIAL PURPOSE

Blenkinsop, Jean A.—Calgary

AIRFRAME MECHANIC

Wickland, Terry D.—Roundup Karch Jr., John—Baker

The average life of a main wheel tire on a four-engine jet airliner is $3\frac{1}{2}$ weeks, or about 100 landings. It would take one man almost $6\frac{1}{2}$ hours to mount a tire and install it on the plane.

A semi-automatic aircraft washing station is in operation at Denver's Jefferson County Airport. A wash and rinse for an airplane costs only \$1.00 and takes ten minutes.

CIVIL AIRCRAFT OPERATOR DESIGNATORS

1. PURPOSE. Advisory Circular No. AC 120-26, states the criteria and the procedures for the assignment of a designator and a corresponding air/ground call-sign to civil aircraft operators engaged in domestic services on a repetitive basis.

2. GENERAL.

- a. An aircraft operator designator is a two or three-letter code which, when used in conjunction with the flight number, serves as the aircraft identification in the air traffic control system in flight plans, fix postings, control messages, computers, etc. When assigned, the designator/flight number combination is used in lieu of the aircraft's registration (N) number in these written records.
- b. A radiotelephone designator (air/ground call-sign) is normally the company name or an abbreviation thereof used in combination with the flight number. It is assigned at the same time as the three-letter code and becomes the aircraft identification in air/ground communications with FAA facilities in lieu of the standard "type/tail number" combination.

c. Two-letter designators, e.g., TW, AA, BN, are now assigned by ICAO on a world-wide, exclusive basis for international operations. Such designators are not available to purely domestic operators.

d. The FAA has established a system for the assignment of aircraft operator designators in the three-letter series (with corresponding air/ground call-signs) to supplement the ICAO international system. The FAA system is designed to aid air traffic personnel in the handling of aircraft operating frequently between specified points, including increased utilization of Stored Flight Plan Program.

3. CRITERIA.

- a. An aircraft operator will be considered for assignment of a threeletter designator and an air/ground call-sign by the Air Traffic Service provided:
- (1) The assignment will promote the efficiency of the control or supervision of the operation by FAA;
- (2) The operator is not eligible for an ICAO two-letter designator;
 - (3) The company is certificated

for commercial operations under FAR 135, 121, or 127;

(4) Flight operations are conducted on a scheduled basis between the same points at least one day each week within the United States Air Traffic Control System on a continuous (not seasonal) basis.

b. Exceptions to Item (3) may be made on an individual basis if the operation is noncommercial but otherwise meets the criteria.

c. Flight test operations and other operations of special concern to FAA will be considered on an individual basis.

- 4. APPLICATION. An aircraft operator that meets the above criteria and desires assignment of a designator and air/ground call-sign for air traffic control purposes may address a request to the appropriate FAA Regional Office, Attention: Air Traffic Division, or FAA Area Office, Attention: Air Traffic Branch. The request should contain information concerning how the operator meets the criteria including copies of any published schedules. An air/ground call-sign may be suggested by the applicant. These are normally the company name or a contraction there-
- TRANSITION TO THE NEW SYSTEM. Because of the obsolesence of the present list of designators, the next revision to the FAA Contractions Handbook (7340.1) (Available from the Government Printing Office, Superintendent of Documents, Washington, D. C. 20402, for sixty cents) will list only those designators (with air/ground call-signs) which are either (a) currently assigned by ICAO (two-letters) or (b) have been authorized by the Air Traffic Service, FAA, by memorandum to the operator since August 1, 1966 (three-letters). However, in order to provide ample time for application under this new program, Air Traffic facilities are being instructed to continue to accept those designators previously listed and still in use, until June 30, 1968. Thereafter, only those authorized by ICAO or the Air Traffic Service, FAA, will be valid.
- 6. ASSIGNMENT PROCEDURES. Assignment of a three-letter designator and an air/ground call-sign will be made by FAA Headquarters, Air Traffic Service, by memorandum to the company pending publication in the Contractions Handbook. If possible, assignment of the air/ground

call-sign will be made in accordance with the one suggested. New call-signs which are similar in sound to those of other established air carriers using the same routes or terminals will not be assigned in order to reduce the possibility of misidentification in air traffic control operations. In such instances, two words or a contraction of the company name may be necessary.

- 7. LIMITATIONS.
- a. The assignment of a threeletter designator and an air/ground call-sign (instead of the aircraft registration number or type/number) is similar to the procedure for identifi-

cation of the scheduled airlines. The use of both is necessary for the controller's correlation between the written records and radio-communications. However, they are valid only when the aircraft are being flown on regular company business, i.e., in accordance with the provisions of the Federal Aviation Regulation under which an operating certificate was obtained from the FAA. When using the aircraft for personal flying, for example, the pilot must revert to standard identification procedures (type/tail number).

b. Use of an assigned three-letter designator and corresponding air/ground call-sign is valid only within

the United States Air Traffic Control System. Standard identification procedures are required for the entire flight if any portion is not subject to U. S. air traffic control.

c. An operator assigned an aircraft company designator and an air/ground call-sign does not automatically qualify for entrance in to the Stored Flight Plan Program of the Air Route Traffic Control Centers. The Stored Flight Plan has requirements in addition to those specified in the criteria for an aircraft company designator and an air/ground call-sign. Contact the appropriate ARTCC for information concerning stored flight plans.

MAC TO REVISE MAILING LIST

EFFECTIVE MAY 1st. the Address-O-Graph System of the Montana Aeronautics Commission will be completely revised.

All persons presently on the mailing list, except pilots registered for 1968, must return the form shown below by April 30th or they will be removed from the files. Everyone presently on the mailing list is perfectly welcome to remain, however, we must have the form returned with vertification of your correct address. All Elementary schools will be pulled UNLESS OTHERWISE REQUESTED. Libraries, Junior High and Senior High Schools will remain on file. One of all duplicate mailings to the same address will be pulled UNLESS OTHERWISE REQUESTED.

MPA CONVENTION PRE-REGISTRATION

DATE: MAY 3, 4 & 5.	\$25 - Couple \$15 - Single
NUMBER OF PERSONS	ψτο Ging.
NAMETOWN	
REGISTRATION FEE ENCLOSED: TOTAL (\$25. Couple) PARTIAL (\$10-couple) (\$15. Single)	
If you wish accommodation reservations made for you please complete the following.	
ACCOMMODATIONS REQUIRED: Single	
LOCATION PREFERENCE (If available)	

MEMBER

NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS

PURPOSE:—"To foster aviation as an industry, as a mode of transportation for persons and property and as an arm of the national defense; to join with the Federal Government and other groups in research, development, and advancement of aviation; to develop uniform laws and regulations; and to otherwise encourage co-operation and mutual aid among the several states."

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APRIL, 1968

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